

Appendix D - EJSG Work Plan

A. Project Title and Project Purpose Statement: Quality Parks Master Naturalists

Quality Parks seeks to improve the Quality Parks Master Naturalists with this grant, by applying grant funds to not only enhance our cadre of community-based naturalists in the diverse ecology of Long Island, but to also have them return to their local communities and teach others how to plan for threats to water and climate-related changes, and how to respond when these threats adversely impact.

The Quality Parks Master Naturalist certification program is designed to develop a cadre of citizen conservation stewards dedicated to nature education, land stewardship, and community service on behalf of Long Island's natural areas. To be certified as a Quality Parks Master Naturalist you complete 45 hours of training in the Long Island's (Nassau, Suffolk Counties, NY) unique ecology, meaningful homework, and twenty hours of relevant service. The program is designed to be flexible enough to meet demanding schedules. Most students complete the program in 4-6 months. Relevant service promotes action-oriented stewardship, dovetailing with such specific projects as invasive species control, oyster shellfish restoration, cleanups, citizen science, home park monitoring, etc. The program includes six core session of natural history and stewardship related sessions. The program's ultimate purpose is to create a network of community-based naturalists who are aware of climate-based, clean water and other threats to local ecological systems and can "translate" these threats into grassroots-sourced solutions that reduce or mitigate risk and promote resiliency.

Researchers have long known that local response to threats, especially to disasters, is more effective than that of outsiders, even outsiders with specific experience in disaster response. The Tsunami Evaluation Coalition saw this in 2006, when it noted that "The tsunami was a sudden-onset natural disaster, and local people did most of the search and rescue and life saving. Survivors were rescued by their neighbors and by other survivors using whatever means were at hand... Teams formed spontaneously, the skilled and unskilled, rich and poor, one ethnicity or class side-by-side with another."

This local ability to coordinate responses was demonstrated again during the response to Superstorm Sandy—because of the use of social media, researchers at the Homeland Security Studies and Analysis Institute were able to map this local response in "The Resilient Social Network: @OccupySandy #SuperstormSandy." And in fact, this network emerged in response to the failure of top-down coordination from FEMA and the American Red Cross (<http://www.propublica.org/article/the-red-cross-secret-disaster>), an example of people taking environmental justice into their own hands.

Emergent networks such as this do not always appear, even in times of disaster, and may not be effective if they do, as the experience in Hurricane Katrina showed. There must be sufficient social capital built up in the society for the raw material of such networks to be available. Social capital refers to resources embedded in one's social networks; resources that can be accessed or mobilized through ties in the networks (Lin 2008). The Quality Parks program will create a social capital network throughout Long Island that can be drawn on in times of crisis. These ties will perform different functions: community ties will link those of similar social status and geographic location; the Quality Parks program will also be a link to and from those communities to external assets, increasing the likelihood that the community's needs will be heard and met.

The Quality Parks program will also fill the critical need of local expert assessment of climate-related risks in a particular community (extreme weather events, such as hurricanes, floods, droughts; wildfire risk safety; and tick bite prevention). Humans are not great at assessing risk, using heuristics to contain the uncertainty with more or less success, depending on circumstances (Tversky and Kahneman 1974). Risk is also culturally mediated: social groups will attempt to downplay some risks and emphasize others as a means of controlling the group (Douglas and Wildavsky 1982). For these reasons, it is crucial to train people who can not only assess risk, but who can also impact their community's perception of that risk. In order to align that perception with expert assessment, Quality Parks' naturalists will be trained to present information on risks in perspective, in comparison with known risks, taking into account the societal impacts that these different risks have, and also taking into account that risk perception may actually be an indicator of another issue affecting the community altogether (Slovic 1987).

B. Environmental, Public Health and Community Climate Resiliency Information about the Affected Community

According to the 2010 Demographic Profile from the U.S. Census Bureau, Long Island (Nassau and Suffolk Counties) had a population of 2,832,882. It is one of the most densely populated regions in the country. Long Island has 15% of the total population of the state of New York. This is a population that is changing rapidly; there are now local school districts that serve majority minority populations, with more than twenty percent of the population speaking a language other than English at home.

As the area becomes more developed, and thanks to proximity to both New York City and the Hamptons, both the population and its diversity is expected to grow. Such development has created a host of clean water and safe drinking water problems (introduction of pathogens, excess nutrients, suspended sediments, and toxic contaminants which have caused events such as Brown Tide algal blooms). It is imperative that education and outreach efforts also continue to grow, and are targeted to the population.

Long Island is the largest and longest island in the contiguous U.S, stretching 118 miles east from New York City, with a land area of 1,401 square miles, and a coastline approximately 340 miles long. It is also a transition point between north and south climates and has one of the highest incidence rates for tick-borne diseases in the nation. And it contains a fire dependent Pine Barrens forest. Such unique coastal geomorphology and ecological features make it especially vulnerable to natural disasters and climate change (hurricanes, coastal storms, explosive insect populations, and wildfires), and thus the need for climate resilience.

However, not all of Long Island is subject to these threats equally. This is especially important on Long Island because the "affected communities" on LI are diverse: some are more at risk because of location (for example, increased drought means more wildfire risk vs. sea rise means increased risk of flooding at high tides and full moons), while others are at risk because of lack of both information and options that are low-cost in terms of time, money, or energy. There are pockets of deep poverty, on an island where the average cost of living according to *Forbes* is 30% above the national average. Those that live on the coast in flood prone areas are more subject to the effects of hurricanes. Those that live in the Pine Barrens are more subject to wildfire threats and tick-borne diseases. Those that live in more wooded areas are subject to tree falls, and loss of power during storms.

Empowering citizens is an inherently democratic way of meeting the challenges of climate change from the bottom-up rather than top-down. While high levels of social capital simultaneously provide strong benefits such as reduced barriers to collective action for members of the network, lack of social capital can create equally strong negative externalities to those already on the periphery of society, especially women and minorities (Aldrich 2011). The recent example of New York Rising, a community reconstruction program that was established by New York State to provide additional rebuilding and revitalization assistance to those who were damaged by such storms like Superstorm Sandy, is a case in point. This has been a top-down effort, where local civic, weather, and environmental groups were presented with a limited set of options by state officials and powerful lobbying groups, provided little opportunity to comment, and presented with a final plan as a *fait accompli* (see for example the Mastic Beach and Smith Point of Shirley plan:

http://stormrecovery.ny.gov/sites/default/files/crp/community/documents/masticbeach-smithpointofshirley_nyrer_plan.pdf). This then becomes a circular problem: local people are not involved because they are uninformed and untrained, and because they are not informed and trained, they are not involved in decision-making. The Quality Parks program will build capacity to correct the injustice of being left out of decision-making.

Policymakers on Long Island are aware that there is a large disconnect between citizens and knowledge about the environment. Most “educational” campaigns about the environment in the past have focused on persuading people to vote yes or no on ballot propositions; educating

people in the underlying ecological systems or how they impact daily life has not been a priority. The result is widespread public confusion, and thus a lack of support for sound public policy. For example, at the June 2014 meeting of the new Long Island Commission for Aquifer Protection, vice-chairman Dennis Kelleher stated:

“there is still a great need to educate the general public, because they have no idea where they get the drinking water from or what they can do to help the Aquifer. We need to have a common message out there... there are very educated people, leaders in the community on Long Island and they don’t even get our drinking water system”.

http://www.liaquifercommission.com/images/LICAP_Minutes_June_25_2014.pdf, p. 24

The Quality Parks program will be expanded to create this connection by: 1) training master naturalists who will be able to spread the information in their own neighborhoods, and by 2) offering community sessions to meet a variety of objectives: curriculum development, education, and response.

C. Organization’s Historical Connection to the Affected Community

Quality Parks is a federally recognized not-for-profit organization founded by Mindy Block in 2000, working side by side with others, on a shared stewardship vision. Quality Parks is well connected within the Long Island environmental community, having contacts to local nature centers, civic associations, public land managing agencies, environmental organizations, and individuals.

Quality Parks was founded in part to conduct environmental user requirements analysis, integrate information technology functions into workflow, to document ecological information exchange needs, design processes and information flows that accommodate quality improvement, work with park personnel to implement revised workflows, and evaluate process workflows to validate or improve the systems of any environmental management institution. As an example of environmentally sensitive workflow improvement, using research about NFDRS (National Fire Danger Rating System), Quality Parks worked with public land managers made the specific recommendation to modify Long Island’s 4 scale to match the national five scale rating system.

Quality Parks has also worked steadily to be a conservation advocate, providing voice to those in need. This is accomplished by a three-pronged approach: participation, observation, and support. Participation gains experience, observation gains understanding, and support provides relevant service to underserved communities, all of which demonstrate Quality Parks’ commitment to environmental justice. Several examples of how Quality Parks has increased the community capacity to address local issues include: working with local civic organizations to keep Brookhaven State Park open for recreational access, and publishing *Sunrise Fire*, a novel based upon Long Island’s collective experience of protecting life, property, and the environment. And through Quality Parks programs this community capacity now includes: wildfire situational

awareness, tick presence/absence studies (a public health issue), and the Quality Parks Master Naturalist certification program fostering environmental, health, and climate resiliency.

Quality Parks has persistently been a “straight-shooting” presence to affected communities on a variety of environmental issues including ecological restoration, wildfire situational awareness, endangered species, cleanups, citizen science, wildlife management, public access rights, invasive species, tick bite prevention, and native plant production. Quality Parks frequently engages the public on environmental justice projects, such as cleaning up dumping sites, planting trees, *pro bono publico*.

Quality Parks President Mindy Block was married to Raymond P. Corwin, a well-known environmentalist and the energy behind the creation of the Long Island Pine Barrens Commission. Corwin served as its first Executive Director and held that office for 17 years, until his untimely death in April, 2010. After his death, John Turner, a well-known naturalist, author, adjunct instructor in the Environmental Science Program at SUNY Stony Brook, and former head of the DEP for the Town of Brookhaven, suggested that Block initiate a Master Naturalist program on Long Island. For the three years it has been in operation, the Quality Parks Master Naturalist, and will continue to be a way of engaging the community in environmental justice.

D. Project Description

There is a great need for naturalists who can “translate” from global challenges to local solutions. Furthermore, this need is likely to grow in the future: according to a report by the World Meteorological Organization and the Centre for Research on the Epidemiology of Disasters (CRED) of the Catholic University of Louvain (UCL) in Belgium:

“In North America, Central America and the Caribbean, the period from 1970 to 2012 saw 1,631 reported disasters that caused the loss of 71,246 lives and economic damages of US\$ 1,008.5 billion. The majority of the reported hydrometeorological and climate-related disasters in this region were attributed to storms (55 per cent) and floods (30 per cent). Storms were reported to be the greatest cause of casualties (72 per cent) and economic loss (79 per cent). The most significant events in terms of lives lost were Hurricane Mitch in 1998 (17,932 deaths), which affected Honduras and Nicaragua, and Hurricane Fifi in 1974 (8,000 deaths), which affected Honduras. However, in terms of economic damage, Hurricane Katrina in 2005 was the most costly disaster on record, resulting in US\$ 146.9 billion in losses.” (Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970–2012, page 22)

In this region, the number of reported disasters is going up, mainly because the number of storms and floods are going up. People are still dying in huge numbers from storms and floods, but not as much during the years 2001-2010 as in the previous decade. Economic losses from storms are growing exponentially, and the projection is for increased risks of more severe weather, especially hurricanes.

For the purposes of this grant, we will be focusing efforts on the following underserved neighborhoods in the community: Riverside/Flanders and Mastic Beach/Shirley. Riverside/Flanders is a poor (\$13,000-26,000 average annual income) and mostly minority neighborhood that suffers from threats such as impaired water quality, wildfire, ticks, and illegal dumping. Mastic Beach/Shirley is also poor (\$16,000-41,000 average annual income) and suffers from threats such as impaired water quality, flooding, and ticks. Both neighborhoods endured severe damage from Superstorm Sandy.

The Quality Parks Master Naturalists program seeks to expand our ability to train community-based naturalists on the issues addressing local environmental, public health and community climate resiliency issues, and, using those naturalists, offer community sessions to local residents on their unique habitat and living resources. We seek funding in the amount of \$29,830 in order to train students, research and develop curriculum, offer scholarships to interested participants, and increase enrollment through QP Master Naturalist development actions.

Goal #1: Train Master Naturalists

Quality Parks will be to expand our program to train master naturalists to be more aware of environmental justice concerns by applying a train-the-trainer model. Our short-term objective is to train twenty people to be master naturalists in their own community; while our long-term objective is to expand a social capital network throughout Long Island that can be drawn on in times of crisis. This includes maintaining and expanding upon our own network of current and former students who contribute to each other's knowledge base and that can be activated in times of need. We train master naturalists by employing local experts, (who are most familiar with each of the ecological regions of Long Island, their risks, and the relevant subject area with the objective of creating employment, enabling specialization, and creating a network of experts), that neighborhood-based master naturalists can call upon. Finally, we continually refine our dynamic curriculum research and development, seeking to enhance the experience and enrich the knowledge base of students as naturalists and to expand their understanding of risk. It is crucial to train people who can not only assess risk, but who can also impact their community's perception of that risk. With this grant, our objective is to expand the ability of students to be able to identify priorities associated with the Clean Water Act (including sewer systems, nitrogen level, and storm water runoff), the Safe Drinking Water Act (including pharmaceuticals in our groundwater, saltwater intrusion, and overdraw from the aquifer) and climate resiliency (including reaction to hurricanes and other storms, wildfires, and drought). One way to help them identify priorities is to use the *EJView* online database to examine their neighborhood's characteristics.

Goal #2: Offer Community Opportunities

Quality Parks will offer several opportunities to meet a variety of objectives: curriculum development, education, and response. Our coordinators will offer six community sessions

aimed at developing curriculum that is meaningful and relevant to the community. During these sessions, we intend to ask about community needs; what are environmental threats that concern them most. In this way, the curriculum can be shaped to their needs as well as to environmental priorities, empowering localities as they engage in the curriculum decision making process. These sessions will also briefly explain tools that are available to the public (such as the EnviroFacts online database), the Quality Parks Master Naturalist certification program and its availability of scholarships. Once trained, our master naturalists will offer six educational presentations in their neighborhoods, at local meeting places such as public libraries, in order to pass on what they have learned that is relevant to their community and the goals of this grant. And we will hold 2 response drills for preplanning purposes. These drills will make strides towards improving connections to the decisions being made and the decision making process of the existing “prevention, protection, mitigation, response, recovery” framework, so that individual master naturalists and communities become more familiar with, tap into, and become more fully engaged with the local emergency response system.

In training Quality Parks Master Naturalists on clean water, safe drinking water and climate resiliency, our fifteen partners, known as Quality Parks Master Naturalist Cooperators, work with us to help promote the program via email blasts, provide us with their facilities for meeting and presenting sessions, cosponsor events, and make donations to our Scholarship Fund. For example, the South Fork Natural History Museum & Nature Center, Quogue Wildlife Refuge, Tackapausha Nature Preserve have given us access to their facilities for informational presentations and for training sessions. The Long Island Sierra Club donated \$700 to our Scholarship Fund to enable financial aid to incoming Quality Parks Master Naturalist students. Though not all of our “partners” have signed our Cooperators agreement, we also rely on their support to provide outreach to the general public, access to facilities for presentations, opportunities for relevant service, and in helping us keeping curriculum up to date and relevant. We maintain contact with these organizations and have organized a lunch meeting at the upcoming Long Island Nature organization’s naturalist meeting in March 2015 to meet and discuss Quality Parks Master Naturalist curriculum and training issues.

In addition to these existing community cooperators, we will be forging new relationships with organizations in the focus neighborhoods, such as the Poospatuck Indian Reservation in Mastic Beach. Our target is ten students/session, but we feel it valuable to run the program with as little as two students /session, so we have included a Program Development Fund to cover low enrollment risk (ensures no cancellation of any session if enrollment is at least above 2 students).

E. Organizational Capacity and Programmatic Capability (approximately 1/2 page)

Quality Parks uses the software financial management tool, GnuCash, as a straightforward, easy-to-use, industry-standard business software that assists in managing the financial aspects of our many projects effectively; to track financial and expense obligations. We also use Google Apps

to maintain contacts, student records (performance measures of attendance, relevant service and meaningful homework), and online curriculum materials.

The Quality Parks Master Naturalist program, in 2013-2014, had 42 registered students of which 14 graduated as Quality Parks Master Naturalists and 17 graduated with partial “session” certificates. Their combined relevant service hours, contributing to 50 park/regions/communities to benefit 35 agencies/organizations, which totaled just over 1200 hours. Quality Parks ran at 5 entire programs (6 core sessions per program) on Long Island, including 4 coordinators and 21 local expert instructors.

Mindy Block is the Program Manager, along with Eric Powers, Laurie Farber, and Chris Duffner (all three are professional Long Island environmental educators) as Quality Parks Master Naturalist coordinators. They handle all things related to the successful planning, management, and implementation of the Quality Parks Master Naturalist certification program. Advisors provide additional support. Annelies Kamran will our curriculum coordinator who is soon to be a Quality Parks Master Naturalist graduate, and is a digital publishing professional with over a decade in developing and producing educational materials. Fred Edel, as our response drill coordinator, has over thirty-five years experience as a firefighter, Ex-chief, Incident and Fire Safety Education Officer. Robbin Block will be the QP Master Naturalist development coordinator, and has over 25 years of traditional and online marketing experience.

We submitted all required financial forms and annual reports for both of the following grants:

- Educational Materials Development Project, Alaska (L10AC20546) - Jeff Brune, BLM Project Officer 907-267-1255 Note: deobligated due to Federal budget crisis in 2013.
- Remote Automatic Weather Station (RAWS) Standards Research (L10AP20026) - BLM Program Officer - Bryan Henry - 406-329-4875

F. Qualifications of the Principal Investigator or Project Manager (PI/PM)

Mindy Block is founder and President of Quality Parks, and principal of Sustaining Systems, LLC, a registered WBE in NY State. She is the PI/PM. She has a M.S. in Environmental Studies from Antioch New England, a M.S. in Computer Science from SUNY Stony Brook, and more than 25 years of environmental experience on Long Island. She works in land stewardship, public engagement, and conservation-related activities, as well as performing such tasks as webmaster, budgeting, finances, grant writing, content editing, publications, hands on conservation support, creative solutions in managing conservation actions from planning to implementation. Examples of how Mindy Block has increased the community’s capacity to address local issues include: development and passage of the NY Adopt A Natural Stewardship Program.

Additionally, activities include, but are not limited to:

- Clean Water Relevance - Hands on projects with Coastal Steward and Cornell Cooperative Extension oyster and eelgrass restoration programs. Advocate for native plantings to reduce stormwater runoff.
- Climate Resiliency Relevance - conducting field inspections before and after wildland and prescribed fires; Fire danger situational awareness (NOAA, Central Pine Barrens Commission, NYSDEC); attending June 2013 Town of Brookhaven's Hurricane Preparedness Forum.
- Safe Drinking Water Relevance – Lobbying for the NY State Pine Barrens Preservation to save the Pine Barrens and Long Island's drinking water.
- Publications:
 - o Mindy Block. "New York State Forest Ecosystem Benefits from ISO 14000-Based Fire Management." *ISO Management Systems*, June 2002.
http://www.iso.org/iso/home/news_index/iso_magazines/ims_2002.htm.
 - o Long Island Environmental News – an online source of content curated to include relevant stories on a variety of topics, including water quality, hurricane, and wildfire, insect damage, wildlife, and timelines.

G. Past Performance in Reporting on Outputs and Outcomes

Quality Parks was awarded in two federal grants, exemplifying our ability to manage complex grants. We maintained frequent contact with the BLM Program Officers to ensure satisfactory completion of each component of the project, via emails and phone meetings.

- L10AC20546 - Jeff Brune - BLM Project Officer 907-267-1255 - Period of Performance (Approximately - 09/19/2010 through 09/18/2015. Provided videos to complete first contract. The 2nd contract began with a marketing proposal, but we filed our last FFR on 12/20/13 (no funds were available to continue the project, due to deobligated funds during the 2013 federal fiscal crises).
- L10AP20026 - Research and final paper, "The Fire Weather Subcommittee had a conference call yesterday to discuss the report. It went well. They were particularly glad to hear about the improvements to Fire Family Plus that have been made in response to your discoveries of their coding errors." – from BLM Program Officer - Bryan Henry - 406-329-4875 on 2/2/2012.

H. Quality Assurance Project Plan (QAPP) Information

The project won't involve the collection of any new data, but will involve use of existing data.

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